

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company: Samsung Project #: 4788371689 Date: 2018-03-26 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_QPSK Band 12 Harmonics, 5MHz Bandwidth								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 701.5MHz										
1403.00	-19.4	V	3.0	41.7	1.0	-60.1	-13.0	-47.1		
2104.50	-14.0	V	3.0	42.0	1.0	-54.9	-13.0	-41.9		
2806.00	-16.2	V	3.0	41.5	1.0	-56.7	-13.0	-43.7		
3507.50	-13.8	V	3.0	41.0	1.0	-53.8	-13.0	-40.8		
1403.00	-18.5	H	3.0	41.7	1.0	-59.2	-13.0	-46.2		
2104.50	-10.6	H	3.0	42.0	1.0	-51.6	-13.0	-38.6		
2806.00	-16.8	H	3.0	41.5	1.0	-57.3	-13.0	-44.3		
3507.50	-15.3	H	3.0	41.0	1.0	-55.2	-13.0	-42.2		
Mid Ch, 707.5MHz										
1415.00	-16.2	V	3.0	41.7	1.0	-56.9	-13.0	-43.9		
2122.50	-13.9	V	3.0	41.9	1.0	-54.8	-13.0	-41.8		
2830.00	-16.7	V	3.0	41.4	1.0	-57.2	-13.0	-44.2		
3537.50	-12.4	V	3.0	41.0	1.0	-52.4	-13.0	-39.4		
1415.00	-16.4	H	3.0	41.7	1.0	-57.1	-13.0	-44.1		
2122.50	-11.8	H	3.0	41.9	1.0	-52.8	-13.0	-39.8		
2830.00	-16.7	H	3.0	41.4	1.0	-57.1	-13.0	-44.1		
3537.50	-15.3	H	3.0	41.0	1.0	-55.2	-13.0	-42.2		
High Ch, 713.5MHz										
1427.00	-17.6	V	3.0	41.7	1.0	-58.3	-13.0	-45.3		
2140.50	-13.4	V	3.0	41.9	1.0	-54.3	-13.0	-41.3		
2854.00	-16.7	V	3.0	41.4	1.0	-57.1	-13.0	-44.1		
3567.50	-12.8	V	3.0	41.0	1.0	-52.7	-13.0	-39.7		
1427.00	-17.4	H	3.0	41.7	1.0	-58.1	-13.0	-45.1		
2140.50	-11.9	H	3.0	41.9	1.0	-52.8	-13.0	-39.8		
2854.00	-17.0	H	3.0	41.4	1.0	-57.4	-13.0	-44.4		
3567.50	-14.5	H	3.0	41.0	1.0	-54.4	-13.0	-41.4		

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company: Samsung Project #: 4788371689 Date: 2018-03-26 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_16QAM Band 12 Harmonics, 5MHz Bandwidth								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 701.5MHz										
1403.00	-19.3	V	3.0	41.7	1.0	-60.0	-13.0	-47.0		
2104.50	-13.5	V	3.0	42.0	1.0	-54.4	-13.0	-41.4		
2806.00	-16.0	V	3.0	41.5	1.0	-56.5	-13.0	-43.5		
3507.50	-12.3	V	3.0	41.0	1.0	-52.3	-13.0	-39.3		
1403.00	-18.8	H	3.0	41.7	1.0	-59.5	-13.0	-46.5		
2104.50	-10.5	H	3.0	42.0	1.0	-51.5	-13.0	-38.5		
2806.00	-16.3	H	3.0	41.5	1.0	-56.7	-13.0	-43.7		
3507.50	-14.3	H	3.0	41.0	1.0	-54.3	-13.0	-41.3		
Mid Ch, 707.5MHz										
1415.00	-16.1	V	3.0	41.7	1.0	-56.8	-13.0	-43.8		
2122.50	-13.4	V	3.0	41.9	1.0	-54.4	-13.0	-41.4		
2830.00	-16.6	V	3.0	41.4	1.0	-57.1	-13.0	-44.1		
3537.50	-12.3	V	3.0	41.0	1.0	-52.3	-13.0	-39.3		
1415.00	-16.5	H	3.0	41.7	1.0	-57.2	-13.0	-44.2		
2122.50	-11.0	H	3.0	41.9	1.0	-52.0	-13.0	-39.0		
2830.00	-16.8	H	3.0	41.4	1.0	-57.2	-13.0	-44.2		
3537.50	-15.3	H	3.0	41.0	1.0	-55.2	-13.0	-42.2		
High Ch, 713.5MHz										
1427.00	-18.8	V	3.0	41.7	1.0	-59.5	-13.0	-46.5		
2140.50	-12.4	V	3.0	41.9	1.0	-53.4	-13.0	-40.4		
2854.00	-15.9	V	3.0	41.4	1.0	-56.3	-13.0	-43.3		
3567.50	-11.2	V	3.0	41.0	1.0	-51.2	-13.0	-38.2		
1427.00	-17.5	H	3.0	41.7	1.0	-58.2	-13.0	-45.2		
2140.50	-10.7	H	3.0	41.9	1.0	-51.6	-13.0	-38.6		
2854.00	-16.7	H	3.0	41.4	1.0	-57.2	-13.0	-44.2		
3567.50	-13.8	H	3.0	41.0	1.0	-53.7	-13.0	-40.7		

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement												
		Company: Samsung Project #: 4788371689 Date: 2018-03-26 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_QPSK Band 12 Harmonics, 3MHz Bandwidth												
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes			
LTE Band 12 3MHz QPSK		Low Ch, 700.5MHz												
		1401.00	-18.5	V	3.0	41.7	1.0	-59.2	-13.0	-46.2				
		2101.50	-14.5	V	3.0	42.0	1.0	-55.5	-13.0	-42.5				
		2802.00	-15.9	V	3.0	41.5	1.0	-56.4	-13.0	-43.4				
		3502.50	-12.8	V	3.0	41.0	1.0	-52.8	-13.0	-39.8				
		1401.00	-19.2	H	3.0	41.7	1.0	-59.8	-13.0	-46.8				
		2101.50	-11.3	H	3.0	42.0	1.0	-52.2	-13.0	-39.2				
		2802.00	-16.4	H	3.0	41.5	1.0	-56.9	-13.0	-43.9				
		3502.50	-15.6	H	3.0	41.0	1.0	-55.6	-13.0	-42.6				
		Mid Ch, 707.5MHz												
		1415.00	-16.2	V	3.0	41.7	1.0	-56.9	-13.0	-43.9				
		2122.50	-13.7	V	3.0	41.9	1.0	-54.6	-13.0	-41.6				
		2830.00	-16.4	V	3.0	41.4	1.0	-56.8	-13.0	-43.8				
		3537.50	-12.7	V	3.0	41.0	1.0	-52.7	-13.0	-39.7				
		1415.00	-16.7	H	3.0	41.7	1.0	-57.3	-13.0	-44.3				
		2122.50	-11.5	H	3.0	41.9	1.0	-52.5	-13.0	-39.5				
		2830.00	-16.6	H	3.0	41.4	1.0	-57.0	-13.0	-44.0				
		3537.50	-15.1	H	3.0	41.0	1.0	-55.1	-13.0	-42.1				
		High Ch, 714.5MHz												
		1429.00	-17.9	V	3.0	41.7	1.0	-58.6	-13.0	-45.6				
		2143.50	-13.3	V	3.0	41.9	1.0	-54.2	-13.0	-41.2				
		2858.00	-16.5	V	3.0	41.4	1.0	-56.9	-13.0	-43.9				
		3572.50	-12.4	V	3.0	40.9	1.0	-52.3	-13.0	-39.3				
		1429.00	-17.3	H	3.0	41.7	1.0	-58.0	-13.0	-45.0				
		2143.50	-11.8	H	3.0	41.9	1.0	-52.7	-13.0	-39.7				
		2858.00	-16.7	H	3.0	41.4	1.0	-57.1	-13.0	-44.1				
		3572.50	-15.1	H	3.0	40.9	1.0	-55.1	-13.0	-42.1				
				UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
				Company: Samsung Project #: 4788371689 Date: 2018-03-26 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_16QAM Band 12 Harmonics, 3MHz Bandwidth										
				f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
LTE Band 12 3MHz 16QAM		Low Ch, 700.5MHz												
		1401.00	-18.1	V	3.0	41.7	1.0	-58.7	-13.0	-45.7				
		2101.50	-13.5	V	3.0	42.0	1.0	-54.4	-13.0	-41.4				
		2802.00	-16.5	V	3.0	41.5	1.0	-56.9	-13.0	-43.9				
		3502.50	-12.4	V	3.0	41.0	1.0	-52.4	-13.0	-39.4				
		1401.00	-19.0	H	3.0	41.7	1.0	-59.6	-13.0	-46.6				
		2101.50	-10.1	H	3.0	42.0	1.0	-51.1	-13.0	-38.1				
		2802.00	-17.0	H	3.0	41.5	1.0	-57.5	-13.0	-44.5				
		3502.50	-14.6	H	3.0	41.0	1.0	-54.6	-13.0	-41.6				
		Mid Ch, 707.5MHz												
		1415.00	-15.9	V	3.0	41.7	1.0	-56.5	-13.0	-43.5				
		2122.50	-13.3	V	3.0	41.9	1.0	-54.3	-13.0	-41.3				
		2830.00	-16.0	V	3.0	41.4	1.0	-56.4	-13.0	-43.4				
		3537.50	-12.9	V	3.0	41.0	1.0	-52.8	-13.0	-39.8				
		1415.00	-16.9	H	3.0	41.7	1.0	-57.6	-13.0	-44.6				
		2122.50	-10.7	H	3.0	41.9	1.0	-51.6	-13.0	-38.6				
		2830.00	-16.6	H	3.0	41.4	1.0	-57.1	-13.0	-44.1				
		3537.50	-14.8	H	3.0	41.0	1.0	-54.7	-13.0	-41.7				
		High Ch, 714.5MHz												
		1429.00	-18.2	V	3.0	41.7	1.0	-58.9	-13.0	-45.9				
		2143.50	-12.4	V	3.0	41.9	1.0	-53.3	-13.0	-40.3				
		2858.00	-16.4	V	3.0	41.4	1.0	-56.8	-13.0	-43.8				
		3572.50	-11.4	V	3.0	40.9	1.0	-51.4	-13.0	-38.4				
		1429.00	-16.8	H	3.0	41.7	1.0	-57.5	-13.0	-44.5				
		2143.50	-10.2	H	3.0	41.9	1.0	-51.1	-13.0	-38.1				
		2858.00	-16.7	H	3.0	41.4	1.0	-57.1	-13.0	-44.1				
		3572.50	-13.7	H	3.0	40.9	1.0	-53.7	-13.0	-40.7				

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement												
		Company: Samsung Project #: 4788371689 Date: 2018-03-26 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_QPSK Band 12 Harmonics, 1.4MHz Bandwidth												
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes			
LTE Band 12 1.4MHz QPSK		Low Ch, 699.7MHz												
		1399.40	-18.1	V	3.0	41.7	1.0	-58.7	-13.0	-45.7				
		2099.10	-13.5	V	3.0	42.0	1.0	-54.4	-13.0	-41.4				
		2798.80	-16.2	V	3.0	41.5	1.0	-56.6	-13.0	-43.6				
		3498.50	-13.5	V	3.0	41.0	1.0	-53.5	-13.0	-40.5				
		1399.40	-18.9	H	3.0	41.7	1.0	-59.5	-13.0	-46.5				
		2099.10	-12.0	H	3.0	42.0	1.0	-53.0	-13.0	-40.0				
		2798.80	-16.8	H	3.0	41.5	1.0	-57.2	-13.0	-44.2				
		3498.50	-16.1	H	3.0	41.0	1.0	-56.1	-13.0	-43.1				
		Mid Ch, 707.5MHz												
		1415.00	-15.8	V	3.0	41.7	1.0	-56.5	-13.0	-43.5				
		2122.50	-12.9	V	3.0	41.9	1.0	-53.9	-13.0	-40.9				
		2830.00	-16.2	V	3.0	41.4	1.0	-56.7	-13.0	-43.7				
		3537.50	-12.5	V	3.0	41.0	1.0	-52.4	-13.0	-39.4				
		1415.00	-14.8	H	3.0	41.7	1.0	-55.4	-13.0	-42.4				
		2122.50	-12.0	H	3.0	41.9	1.0	-52.9	-13.0	-39.9				
		2830.00	-17.1	H	3.0	41.4	1.0	-57.5	-13.0	-44.5				
		3537.50	-15.1	H	3.0	41.0	1.0	-55.0	-13.0	-42.0				
		High Ch, 715.3MHz												
		1430.60	-17.1	V	3.0	41.7	1.0	-57.8	-13.0	-44.8				
		2145.90	-13.1	V	3.0	41.9	1.0	-54.0	-13.0	-41.0				
		2861.20	-16.2	V	3.0	41.4	1.0	-56.6	-13.0	-43.6				
		3576.50	-11.9	V	3.0	40.9	1.0	-51.8	-13.0	-38.8				
		1430.60	-15.2	H	3.0	41.7	1.0	-55.9	-13.0	-42.9				
		2145.90	-9.7	H	3.0	41.9	1.0	-50.6	-13.0	-37.6				
		2861.20	-16.8	H	3.0	41.4	1.0	-57.2	-13.0	-44.2				
		3576.50	-13.9	H	3.0	40.9	1.0	-53.8	-13.0	-40.8				
				UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
				Company: Samsung Project #: 4788371689 Date: 2018-03-26 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_16QAM Band 12 Harmonics, 1.4MHz Bandwidth										
				f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
LTE Band 12 1.4MHz 16QAM		Low Ch, 699.7MHz												
		1399.40	-17.7	V	3.0	41.7	1.0	-58.4	-13.0	-45.4				
		2099.10	-14.2	V	3.0	42.0	1.0	-55.2	-13.0	-42.2				
		2798.80	-16.0	V	3.0	41.5	1.0	-56.4	-13.0	-43.4				
		3498.50	-12.6	V	3.0	41.0	1.0	-52.6	-13.0	-39.6				
		1399.40	-18.2	H	3.0	41.7	1.0	-58.9	-13.0	-45.9				
		2099.10	-10.6	H	3.0	42.0	1.0	-51.5	-13.0	-38.5				
		2798.80	-16.7	H	3.0	41.5	1.0	-57.2	-13.0	-44.2				
		3498.50	-14.6	H	3.0	41.0	1.0	-54.6	-13.0	-41.6				
		Mid Ch, 707.5MHz												
		1415.00	-16.1	V	3.0	41.7	1.0	-56.8	-13.0	-43.8				
		2122.50	-13.4	V	3.0	41.9	1.0	-54.3	-13.0	-41.3				
		2830.00	-16.5	V	3.0	41.4	1.0	-56.9	-13.0	-43.9				
		3537.50	-11.9	V	3.0	41.0	1.0	-51.9	-13.0	-38.9				
		1415.00	-16.0	H	3.0	41.7	1.0	-56.7	-13.0	-43.7				
		2122.50	-10.6	H	3.0	41.9	1.0	-51.5	-13.0	-38.5				
		2830.00	-16.6	H	3.0	41.4	1.0	-57.0	-13.0	-44.0				
		3537.50	-14.3	H	3.0	41.0	1.0	-54.3	-13.0	-41.3				
		High Ch, 715.3MHz												
		1430.60	-17.7	V	3.0	41.7	1.0	-58.4	-13.0	-45.4				
		2145.90	-12.2	V	3.0	41.9	1.0	-53.1	-13.0	-40.1				
		2861.20	-15.7	V	3.0	41.4	1.0	-56.1	-13.0	-43.1				
		3576.50	-10.7	V	3.0	40.9	1.0	-50.7	-13.0	-37.7				
		1430.60	-16.1	H	3.0	41.7	1.0	-56.8	-13.0	-43.8				
		2145.90	-9.6	H	3.0	41.9	1.0	-50.5	-13.0	-37.5				
		2861.20	-16.7	H	3.0	41.4	1.0	-57.2	-13.0	-44.2				
		3576.50	-13.0	H	3.0	40.9	1.0	-52.9	-13.0	-39.9				